

**REMARKS / ARGUMENTS**

This application is believed to be in condition for allowance because the claims, as amended, are believed to be non-obvious and patentable over the cited references. The following paragraphs provide the justification for this belief. In view of the following reasoning for allowance, the Applicant hereby respectfully requests further examination and reconsideration of the subject patent application.

**1.0 Rejections under 35 U.S.C. §101:**

The Office Action rejected claims 1, 11-22, 31-42, 49-62 and 64-66 under 35 USC §101 as being directed towards non-statutory subject matter.

In response, Applicants have amended claims 1-21 to recite the language suggested by the Examiner as being sufficient to overcome the rejection of claim 1 under 35 USC §101. In particular, the Examiner suggested that replacing the language “computer-readable medium” with the language “computer-readable storage medium” would be sufficient to overcome the rejection of claim 1 under 35 USC §101. Therefore, applicants respectfully request the withdrawal of the rejection of claims 1 and 11-21 under 35 USC §101 in view of the aforementioned amendments to claims 1-21.

With respect to claims 22, 31-42, 49-62 and 64-66, the Office Action cites these claims as being rejected under 35 USC §101 but fails to provide any specific objection or rejection of these claims. Further, Applicants respectfully suggest that claims 22, 31-42, 49-62 and 64-66 are in full compliance with 35 USC §101, and these claims are directed towards patentable subject matter.

Therefore since the Office Action has not provided a specific rejection of claims 22, 31-42, 49-62 and 64-66 under 35 USC §101, Applicants respectfully traverse the rejection of claims 22, 31-42, 49-62 and 64-66 under 35 USC §101.

## **2.0     Rejections under 35 U.S.C. §102:**

In the Office Action of July 26, 2007, claims 1, 15-22, 35-42, 53-59, and 64-66 were rejected under 35 U.S.C. §102(a) as being anticipated by Applicant's admitted prior art (FIG. 2 and FIG. 3 and the corresponding text of the present application), referred to as **AAPA** by the office action.

A rejection under 35 U.S.C. §102(a) requires that the Applicant's invention was described in patent granted on an application for patent by another filed in the United States before the invention thereof by the Applicant. To establish that a patent describes the Applicant's invention, all of the claimed elements of an Applicant's invention must be considered, especially where they are missing from the prior art. If a claimed element is not taught in the referenced patent, then a rejection under 35 U.S.C. §102(a) is not proper, as the Applicants' invention can be shown to be patentably distinct from the cited reference.

In view of the following discussion, the Applicants will show that one or more elements of the Applicants' claimed invention are missing from the cited art, and that the Applicants' invention is therefore patentable over that cited art.

### **2.1     Rejection of Independent Claim 1:**

In general, the Office Action rejected independent claim 1 under 35 U.S.C. §102(a) based on the rationale that Applicant's admitted prior art ("**AAPA**"), teaches the Applicant's claimed "...computer executable instructions for automatically encoding an input signal..."

Applicants believe that the Office Action has improperly characterized the capabilities and teachings of the **AAPA** in an attempt to show equivalence to various elements of the Applicants claimed invention. For example, the conventional JPEG 2000 encoding described in the **AAPA** reference (FIG. 2 and FIG. 3, and paragraphs [0051] through [0058] of the

present application), specifically makes use of **encoding pointers** to mark the end of each encoding pass, and uses **demultiplexing aides** in the packet header.

However, in contrast to the **AAPA** reference which generally summarizes some of the features of the JPEG 2000 standard, Applicants specifically explain the following in paragraph [0060] of the present application:

***“Unlike JPEG 2000, the seamless multiplexer provides a system and method for multiplexing multiple embedded bitstreams **without the need to add a demultiplexing aide to the packet header** for successful decoding of the bitstream. In general, this multiplexing is accomplished by using a decoder pointer rather than an encoder pointer to mark the end of each coding pass, and then using the decoder pointer for synchronizing when multiple embedded bitstreams are multiplexed together.”***

(emphasis added)

Clearly, claim 1 of the present application recites that “synchronization of the multiplexing...” is “...**controlled by the decoder pointers generated during the encoding of the constituent components...**” Therefore, since the claimed invention specifically claims the use of **decoder pointers** rather than the **encoder pointers** of the **JPEG 2000** standard, the **AAPA** material discussed in FIG. 2 and FIG. 3, and paragraphs [0051] through [0058] of the present application fails completely to disclose the claimed invention. Applicants respectfully suggest that those skilled in the art would easily appreciate that **decoding pointers** are not disclosed by the use of **encoding pointers** in view of the entirety of the specification of the present application.

Therefore, in view of the preceding discussion, it is clear that the present invention, as claimed by independent claim 1 has elements not disclosed in the **AAPA** reference. Consequently, the rejection of claim 1 under 35 U.S.C. §102(a) is not proper. Therefore, the Applicants respectfully traverse the rejection of independent claim 1, and therefore of

dependent claims 15-21, under 35 U.S.C. §102(a) in view of the language of claim 1. In particular, claim 1 recites the following novel language:

“A computer-readable storage medium having computer executable instructions for automatically encoding an input signal, said computer executable instructions comprising:

decomposing an input signal into constituent components;

encoding the constituent components into individual bitstreams with corresponding decoder pointers being generated as a part of the encoding; and

multiplexing the individual bitstreams into a combined bitstream, with synchronization of the multiplexing being controlled by the decoder pointers generated during the encoding of the constituent components.” (emphasis added)

## **2.2 Rejection of Independent Claim 22:**

In general, the Office Action rejected independent claim 22 under 35 U.S.C. §102(a) based on the rationale that Applicant’s admitted prior art (“**AAPA**”), teaches the Applicant’s claimed “...system for multiplexing bitstreams ...”

Applicants believe that the Office Action has improperly characterized the capabilities and teachings of the **AAPA** in an attempt to show equivalence to various elements of the Applicants claimed invention. For example, the conventional JPEG 2000 encoding described in the **AAPA** reference (FIG. 2 and FIG. 3, and paragraphs [0051] through [0058] of the present application), specifically makes use of **encoding pointers** to mark the end of each encoding pass, and uses **demultiplexing aides** in the packet header.

However, in contrast to the **AAPA** reference which generally summarizes some of the features of the JPEG 2000 standard, Applicants specifically explain the following in paragraph [0060] of the present application:

***“Unlike JPEG 2000, the seamless multiplexer provides a system and method for multiplexing multiple embedded bitstreams *without the need to add a demultiplexing aide to the packet header* for successful decoding of the bitstream. In general, this multiplexing is accomplished by using a decoder pointer rather than an encoder pointer to mark the end of each coding pass, and then using the decoder pointer for synchronizing when multiple embedded bitstreams are multiplexed together.”***  
(emphasis added)

Clearly, claim 22 of the present application recites “...determining first ***decoding pointers*** at the end of each coding pass...” and “...***multiplexing each encoded coefficient bitstream*** into a combined bitstream ***using the first decoding pointers for synchronizing multiplexing*** of the encoded coefficient bitstreams...” Therefore, since the claimed invention specifically claims the use of ***decoder pointers*** rather than the ***encoder pointers*** of the ***JPEG 2000*** standard, the ***AAPA*** material discussed in FIG. 2 and FIG. 3, and paragraphs [0051] through [0058] of the present application fails completely to disclose the claimed invention. Applicants respectfully suggest that those skilled in the art would easily appreciate that ***decoding pointers*** are not disclosed by the use of ***encoding pointers*** in view of the entirety of the specification of the present application.

Therefore, in view of the preceding discussion, it is clear that the present invention, as claimed by independent claim 22 has elements not disclosed in the ***AAPA*** reference. Consequently, the rejection of claim 22 under 35 U.S.C. §102(a) is not proper. Therefore, the Applicants respectfully traverse the rejection of independent claim 22, and therefore of dependent claims 35-41, under 35 U.S.C. §102(a) in view of the language of claim 22. In particular, claim 22 recites the following novel language:

“A system for multiplexing bitstreams, comprising:  
***entropy encoding at least one set of code blocks*** comprising  
transform coefficients ***while determining first decoding pointers at the***

**end of each coding pass**, thereby producing an encoded coefficient bitstream for each set of code blocks ; and

**multiplexing each encoded coefficient bitstream into a combined bitstream** using the first **decoding pointers for synchronizing multiplexing of the encoded coefficient bitstreams.**" (emphasis added)

### 2.3 Rejection of Independent Claim 42:

In general, the Office Action rejected independent claim 42 under 35 U.S.C. §102(a) based on the rationale that Applicant's admitted prior art ("**AAPA**"), teaches the Applicant's claimed "...process for multiplexing bitstreams..."

Applicants believe that the Office Action has improperly characterized the capabilities and teachings of the **AAPA** in an attempt to show equivalence to various elements of the Applicants claimed invention. For example, the conventional JPEG 2000 encoding described in the **AAPA** reference (FIG. 2 and FIG. 3, and paragraphs [0051] through [0058] of the present application), specifically makes use of **encoding pointers** to mark the end of each encoding pass, and uses **demultiplexing aides** in the packet header.

However, in contrast to the **AAPA** reference which generally summarizes some of the features of the JPEG 2000 standard, Applicants specifically explain the following in paragraph [0060] of the present application:

**"Unlike JPEG 2000**, the seamless multiplexer provides a system and method for multiplexing multiple embedded bitstreams **without the need to add a demultiplexing aide to the packet header** for successful decoding of the bitstream. **In general, this multiplexing is accomplished by using a decoder pointer rather than an encoder pointer to mark the end of each coding pass, and then using the decoder pointer for synchronizing when multiple embedded bitstreams are multiplexed together.**" (emphasis added)

Clearly, claim 42 of the present application recites “...**generate a set of decoder pointers by recording decoding points at an end of each coding pass...**” and “...**synchronize multiplexing of all of the encoded bitstreams into a master bitstream using the set of decoder pointers...**” Therefore, since the claimed invention specifically claims the use of **decoder pointers** rather than the **encoder pointers** of the **JPEG 2000** standard, the **AAPA** material discussed in FIG. 2 and FIG. 3, and paragraphs [0051] through [0058] of the present application fails completely to disclose the claimed invention. Applicants respectfully suggest that those skilled in the art would easily appreciate that **decoding pointers** are not disclosed by the use of **encoding pointers** in view of the entirety of the specification of the present application.

Therefore, in view of the preceding discussion, it is clear that the present invention, as claimed by independent claim 42 has elements not disclosed in the **AAPA** reference. Consequently, the rejection of claim 42 under 35 U.S.C. §102(a) is not proper. Therefore, the Applicants respectfully traverse the rejection of independent claim 42, and therefore of dependent claims 53-58, under 35 U.S.C. §102(a) in view of the language of claim 42. In particular, claim 42 recites the following novel language:

“A computer-implemented process for multiplexing bitstreams, comprising using a computer to:

**generate a set of decoder pointers by recording decoding points at an end of each coding pass** when entropy encoding sets of transform coefficients to generate an encoded bitstream from each set of transform coefficients; and

**synchronize multiplexing of all of the encoded bitstreams into a master bitstream using the set of decoder pointers to control a multiplexing order** of segments from the encoded bitstreams” (emphasis added)

## 2.4 Rejection of Independent Claim 59:

In general, the Office Action rejected independent claim 59 under 35 U.S.C. §102(a) based on the rationale that Applicant's admitted prior art ("**AAPA**"), teaches the Applicant's claimed "...system for encoding one or more signals..."

Applicants believe that the Office Action has improperly characterized the capabilities and teachings of the **AAPA** in an attempt to show equivalence to various elements of the Applicants claimed invention. For example, the conventional JPEG 2000 encoding described in the **AAPA** reference (FIG. 2 and FIG. 3, and paragraphs [0051] through [0058] of the present application), specifically makes use of **encoding pointers** to mark the end of each encoding pass, and uses **demultiplexing aides** in the packet header.

However, in contrast to the **AAPA** reference which generally summarizes some of the features of the JPEG 2000 standard, Applicants specifically explain the following in paragraph [0060] of the present application:

*"Unlike JPEG 2000, the seamless multiplexer provides a system and method for multiplexing multiple embedded bitstreams **without the need to add a demultiplexing aide to the packet header** for successful decoding of the bitstream. **In general, this multiplexing is accomplished by using a decoder pointer rather than an encoder pointer to mark the end of each coding pass, and then using the decoder pointer for synchronizing when multiple embedded bitstreams are multiplexed together.**"*  
(emphasis added)

Clearly, claim 59 of the present application recites "...**recording a decoder pointer at an end of each coding pass of the entropy coding for each set of transform coefficients...**" and "**multiplexing each of the component bitstreams into a master bitstream by using the decoder pointers to synchronize the multiplexing** of the component bitstreams..." Therefore, since the claimed invention specifically claims the

use of **decoder pointers** rather than the **encoder pointers** of the **JPEG 2000** standard, the **AAPA** material discussed in FIG. 2 and FIG. 3, and paragraphs [0051] through [0058] of the present application fails completely to disclose the claimed invention. Applicants respectfully suggest that those skilled in the art would easily appreciate that **decoding pointers** are not disclosed by the use of **encoding pointers** in view of the entirety of the specification of the present application.

Therefore, in view of the preceding discussion, it is clear that the present invention, as claimed by independent claim 59 has elements not disclosed in the **AAPA** reference. Consequently, the rejection of claim 59 under 35 U.S.C. §102(a) is not proper. Therefore, the Applicants respectfully traverse the rejection of independent claim 59, and therefore of dependent claims 64-65, under 35 U.S.C. §102(a) in view of the language of claim 59. In particular, claim 59 recites the following novel language:

“A system for encoding one or more signals, comprising:  
decomposing an input signal into individual signal components;  
transforming the individual signal components to produce a plurality of sets of transform coefficients for the signal, each set of transform coefficients corresponding to the individual signal components;  
separately entropy encoding each set of transform coefficients to produce a component bitstream for each set of transform coefficients, while simultaneously **recording a decoder pointer at an end of each coding pass of the entropy coding for each set of transform coefficients**; and  
**multiplexing each of the component bitstreams into a master bitstream by using the decoder pointers to synchronize the multiplexing of the component bitstreams.**” (emphasis added)

**CONCLUSION**

In view of the above discussion, it is respectfully submitted that claims 1, 11-22, 31-42, 49-62 and 64-66 are in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of claims 1, 11-22, 31-42, 49-62 and 64-66, and to pass this application to issue at the earliest opportunity. ***In addition, in view of the allowability of independent claims 1, 22, 42, and 59, Applicants respectfully suggest that dependent claims 2-10, 23-30, 43-48, and 63, previously withdrawn in response to a restriction requirement, are also allowable in view of the allowability of their respective parent claims.*** Consequently, Applicant respectfully requests that claims 2-10, 23-30, 43-48, and 63 be reentered into the present application in view of the allowability of these claims. Finally, in an effort to further the prosecution of the subject application, the Applicant kindly invites the Examiner to telephone the Applicant's attorney at (805) 278-8855 if the Examiner has any additional questions or concerns.

Respectfully submitted,



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